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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,664	05/25/2007	Stephen John Kemp	86769-0020	7299

30398 7590 09/28/2009

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EXAMINER
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ART UNIT	PAPER NUMBER
2163	

NOTIFICATION DATE	DELIVERY MODE
09/28/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/538,664	KEMP ET AL.	
	Examiner	Art Unit	
	TUAN PHAM	2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06/10/20057*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/10/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the application filed on 05/25/2007.

Claims 1-39 are pending.

Information Disclosure Statement

2. The information disclosure statement (IDS) filed on 05/25/2007 has been considered (see form-1449, MPEP 609).

Drawings

3. The drawings filed on 05/25/2007 are accepted.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-28, 30-31, 33-35 and 37-39 are rejected under 35 U.S.C. 102(b) as being unpatentable over Shoup et al (US Patent No. 6108657, herein Shoup).

As per claim 1, Shoup discloses:

1. (original) A method for generating a multi-dimensional data structure in order

to access data associated with a plurality of data sources, said plurality of data sources having a different number of dimensions than said multi-dimensional data structure, said method comprising the steps of:

defining at least one dimension, a dimension value, an attribute and an attribute value for said multi-dimensional data structure (Shoup, [col. 6, lines 5-53], e.g., "generating a multi-dimensional view for a number of different measures. A set of records that include measure values associated with the different measures is retrieved in response to a set of queries. A number of different dimension values are also represented throughout the set of records, and each one of the dimension values is associated with at least one of a number of different dimensions");

creating a plurality of combinations, wherein said each combination defines a data item (Shoup, [col. 11, lines 33-47], [col. 15, lines 53-67], [col. 16, lines 51-61], and [col. 17, lines 36-45], e.g., "Once the layout mapping is generated, the layout engine 212 utilizes the information created in the generation of the layout mapping and the user's formatting information to create a multi-dimensional view. The layout engine 212 generates an axis display for each axis of the view. Each axis display correlates a set of cells to a combination of dimension values" and [col. 10, lines 12-29] "The master table index 204 contains dimension index records. Each dimension index record identifies the following: 1) a dimension value that is associated with one of the dimensions called for in the queries; 2) records in the master table 202 that contain the dimension value; and 3) the dimension associated with the dimension value") ;

wherein said multi-dimensional data structure is defined by a first set of

data items and each of the plurality of data sources is defined by a second set of data items (Shoup, [col. 6, lines 13-37], [col. 11, lines 21-32], e.g., "traditional multi-dimensional record structure, multi-dimensional views may be generated in accordance with the present invention from records that are retrieved using multiple queries. As a result, the measures and dimensions provided in a view may be expanded by performing a new query to gather new measures or dimension values and augmenting existing information in the record management system" and "Each dimension index record identifies a dimension value from the master table, an associated dimension, and each record in the master table that contains the dimension value");

mapping data items in the first set of data items in said multi-dimensional data structure to corresponding data items in the second set of data items in each data source (Shoup, [col. 6, lines 47-64], e.g., "Once a layout mapping is generated, the record management system converts the layout mapping into a multi-dimensional view. For each cell in the layout mapping, measure results are determined based on the measure values in the records in each group corresponding to the cell. The measure results are loaded into the cells, and the multi-dimensional view is displayed"); **and**

determining a location of the gap, the gap comprising a difference between said first set of data items and a second set of data items (Shoup, [col. 16, lines 62-67], and [col. 17, lines 1-35 and lines 53-67], e.g., "In the group designation (step 266), the query map record for each query that produced one of the records identified in the index record comparison (step 264) is examined. If the query map record indicates that

the query called for a measure value that is associated with a measure to be displayed in the multi-dimensional view, then the records produced by that query are designated as being in the group. Otherwise, the records produced by that query are not included in the group. If no records are designated as being in the group, then no group is created. If at least one record has been designated into the group, then a group is created for the selected axis").

As per claim 2, the rejection of claim 1 incorporated and further Shoup discloses: (currently amended) A method according to claim 1, <u>further comprising bridging the gap</u> (Shoup, [col. 11, lines 7-20 and lines 35-47], [col. 16, lines 45-50], e.g., "The measure values in these records are then retrieved by the layout engine 212 and used to determine measure results. Each measure result is loaded into a corresponding cell in the layout mapping storage unit 205. Once the axis displays are formed and the cells are loaded, the display unit 206 displays the view that is provided from the converted layout mapping" and "The cells will later be filled with measure results for the measure being characterized in the view. The cells are designated to correspond to the groups of records on each axis. Each cell corresponds to a group on each axis"), i.e., the system takes into account that there are multiple different data or dimensions collected from other sources and finds ways to solve such differences.

As per claim 3, the rejection of claim 2 incorporated and further Shoup discloses: (currently amended) The method of claim claim 2, wherein said gap is bridged at

said plurality of data sources (Shoup, [col. 11, lines 7-20 and lines 35-47], [col. 16, lines 45-50], e.g., “The measure values in these records are then retrieved by the layout engine 212 and used to determine measure results. Each measure result is loaded into a corresponding cell in the layout mapping storage unit 205. Once the axis displays are formed and the cells are loaded, the display unit 206 displays the view that is provided from the converted layout mapping” and “The cells will later be filled with measure results for the measure being characterized in the view. The cells are designated to correspond to the groups of records on each axis. Each cell corresponds to a group on each axis”), i.e., the system takes into account that there are multiple different data or dimensions collected from other sources and finds ways to solve such differences.

As per claim 4, the rejection of claim 1 incorporated and further Shoup discloses: (currently amended) The method of claim 1 wherein said attribute is assigned to a single dimension (Shoup, [col. 6, lines 44-64], e.g., " each cell in the layout mapping, measure results are determined based on the measure values in the records in each group corresponding to the cell” and [col. 13, lines 49-56], e.g., “Each dimension index record identifies a dimension value and the records in the master table 202 that include the dimension value. Each dimension index record also preferably includes an indication of the query that provided each of the identified records”).

As per claim 5, the rejection of claim 4 incorporated and further Shoup discloses: (original) The method of claim 4, wherein each said dimension value is associated

with a dimension and said attribute value is associated with an attribute (Shoup, [co. 6, lines 35-64], [col. 13, lines 49-56], e.g., "The layout mapping includes a set of cells that are arranged with respect to a set of axes. A set of dimensions is represented on each axis, and each axis includes a set of groups of records from the master table. Each cell corresponds to a group on each axis. Each group of records on an axis includes records that contain a dimension value from each dimension represented on the axis. Each group contains at least one record, because no groups are assigned for dimension values that do not coexist in any record" and "each dimension index record identifies a dimension that is associated with the dimension value in the index record").

As per claim 6, the rejection of claim 1 incorporated and further Shoup discloses: (currently amended) The method of claim 1 wherein said step of creating combinations includes the step of linking two or more dimensions for said combination created (Shoup, [col. 9, lines 17-22], [col. 15, lines 58-67] [col. 21, lines 32-43], e.g., "The record management system 200 is coupled to a database management system 213, which is linked to a database 214. The database 214 contains records that are to be used by the record management system 200 in providing multi-dimensional views" and "multi-dimensional view is created, the record management system 200 determines, in step 226 (FIG. 6(a)), whether the user wishes to have a view created. The input control unit 201, control engine 209 and display 206 combine to provide the user with an interface for indicating whether a multi-dimensional view is to be generated").

As per claim 7, the rejection of claim 6 incorporated and further Shoup discloses: (currently amended) The method of claim 6, wherein said step of mapping said includes the step of mapping a combination for a dimension value to a source structure (Shoup, [col. 14, lines 25-54], [col. 17, lines 36-45], e.g., "the selected dimension value, the index engine 211 determines, in step 243, whether a corresponding dimension index record already exists in the master table index 204. If a corresponding dimension index record already exists for the dimension value, then the existing dimension index record is updated in step 244 to identify the selected record" and "multi-dimensional view may be required to have B dimensions on a vertical axis, D dimensions on a horizontal axis, and a measure being displayed in the view. In such a case, the layout engine 212 generates a set of groups of records for the horizontal axis and a set of groups of records for the vertical axis. For each of these axes, the layout engine 212 selects dimension value combinations, processes sets of dimension index records for each combination").

As per claim 8, the rejection of claim 1 incorporated and further Shoup discloses: (currently amended) The method of claim 1 further comprising the step of creating a mapping file for historic data conversion (Shoup, [col. 3, lines 5-22], [col. 13, lines 27-48], e.g., "In response to newly received records from a query, the record management system 200 updates the query map 203, in step 224 (FIG. 6(a)), so that it contains a record of the most recently performed query. The query map 203 is updated

by the query engine 210 creating a record in the query map 203 that identifies the most recent query and each of the dimensions and measures". Also the phrase "historic data conversion" needs further elaboration. Otherwise the examiner interpretation is sufficed).

As per claim 9, the rejection of claim 1 incorporated and further Shoup discloses: (currently amended) The method of claim 1 further comprising the step of generating a report, wherein said report is a combination, a hierarchy or a mapping report (Shoup, [col. 6, lines 6-30], e.g., "generate a multi-dimensional layout mapping for the measures to be viewed. The layout mapping includes a set of cells that are arranged with respect to a set of axes" and [col. 10, lines 11-20], e.g., "The index engine 211 is responsible for generating and updating the master table index 204. After new records are placed in the master table 202 in response to a new query, the index engine 211 reviews each new record").

As per claim 10, Shoup discloses:
(currently amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by a machine, said instructions for generating a new multi-dimensional chart of accounts that is used to access data associated with a plurality of charts of accounts, wherein said plurality of charts of accounts has a different number of dimensions than said new multi-dimensional chart of accounts, the program storage device executing the steps

of:

defining at least one dimension, a dimension value, an attribute and an attribute value for said new multi-dimensional chart of accounts (Shoup, [col. 6, lines 5-53], e.g., "generating a multi-dimensional view for a number of different measures. A set of records that include measure values associated with the different measures is retrieved in response to a set of queries. A number of different dimension values are also represented throughout the set of records, and each one of the dimension values is associated with at least one of a number of different dimensions");

creating a plurality of combinations, wherein each said combination defines a data item, and wherein said multi-dimensional data structure is defined by a first set of data items and each of said plurality of data sources is defined by a second set of data items (Shoup, [col. 11, lines 33-47], [col. 15, lines 53-67], [col. 16, lines 51-61], and [col. 17, lines 36-45], e.g., "Once the layout mapping is generated, the layout engine 212 utilizes the information created in the generation of the layout mapping and the user's formatting information to create a multi-dimensional view. The layout engine 212 generates an axis display for each axis of the view. Each axis display correlates a set of cells to a combination of dimension values" and [col. 10, lines 12-29] "The master table index 204 contains dimension index records. Each dimension index record identifies the following: 1) a dimension value that is associated with one of the dimensions called for in the queries; 2) records in the master table 202 that contain the dimension value; and 3) the dimension associated with the dimension value") ;

mapping data items in the first set of data items in said new multi

dimensional chart of accounts to corresponding data items in the second set of data items in each chart of accounts (Shoup, [col. 6, lines 47-64], e.g., "Once a layout mapping is generated, the record management system converts the layout mapping into a multi-dimensional view. For each cell in the layout mapping, measure results are determined based on the measure values in the records in each group corresponding to the cell. The measure results are loaded into the cells, and the multi-dimensional view is displayed"); **and**

determining a location of a gap comprising a difference between said first set of data items and a second set of data items Shoup, [col. 16, lines 62-67], and [col. 17, lines 1-35 and lines 53-67], e.g., "In the group designation (step 266), the query map record for each query that produced one of the records identified in the index record comparison (step 264) is examined. If the query map record indicates that the query called for a measure value that is associated with a measure to be displayed in the multi-dimensional view, then the records produced by that query are designated as being in the group. Otherwise, the records produced by that query are not included in the group. If no records are designated as being in the group, then no group is created. If at least one record has been designated into the group, then a group is created for the selected axis").

As per claim 11, the rejection of claim 10 incorporated and further Shoup discloses:

(currently amended) The program storage device of claim 10, wherein said the

program storage device further executes the step of bridging the gap (Shoup, [col. 11, lines 7-20 and lines 35-47], [col. 16, lines 45-50], e.g., "The measure values in these records are then retrieved by the layout engine 212 and used to determine measure results. Each measure result is loaded into a corresponding cell in the layout mapping storage unit 205. Once the axis displays are formed and the cells are loaded, the display unit 206 displays the view that is provided from the converted layout mapping" and "The cells will later be filled with measure results for the measure being characterized in the view. The cells are designated to correspond to the groups of records on each axis. Each cell corresponds to a group on each axis"), i.e., the system takes into account that there are multiple different data or dimensions collected from other sources and finds ways to solve such differences.

As per claim 12, the rejection of claim 12 incorporated and further Shoup discloses:

(currently amended) The program storage device of claim 11, wherein said gap is bridged at said plurality of charts of accounts (Shoup, [col. 11, lines 7-20 and lines 35-47], [col. 16, lines 45-50], e.g., "The measure values in these records are then retrieved by the layout engine 212 and used to determine measure results. Each measure result is loaded into a corresponding cell in the layout mapping storage unit 205. Once the axis displays are formed and the cells are loaded, the display unit 206 displays the view that is provided from the converted layout mapping" and "The cells will later be filled with measure results for the measure being characterized in the view. The

cells are designated to correspond to the groups of records on each axis. Each cell corresponds to a group on each axis"), i.e., the system takes into account that there are multiple different data or dimensions collected from other sources and finds ways to solve such differences.

As per claim 13, the rejection of claim 10 incorporated and further Shoup discloses:

(currently amended) The program storage device of claim 10, wherein attribute is assigned to a single dimension (Shoup, [col. 6, lines 44-64], e.g., " each cell in the layout mapping, measure results are determined based on the measure values in the records in each group corresponding to the cell" and [col. 13, lines 49-56], e.g., "Each dimension index record identifies a dimension value and the records in the master table 202 that include the dimension value. Each dimension index record also preferably includes an indication of the query that provided each of the identified records").

As per claim 14, the rejection of claim 13 incorporated and further Shoup discloses:

(original) The program storage device of claim 13, wherein said dimension value is associated with a dimension and said attribute value is associated with an attribute (Shoup, [co. 6, lines 35-64], [col. 13, lines 49-56], e.g., "The layout mapping includes a set of cells that are arranged with respect to a set of axes. A set of dimensions is represented on each axis, and each axis includes a set of groups of

records from the master table. Each cell corresponds to a group on each axis. Each group of records on an axis includes records that contain a dimension value from each dimension represented on the axis. Each group contains at least one record, because no groups are assigned for dimension values that do not coexist in any record" and "each dimension index record identifies a dimension that is associated with the dimension value in the index record").

As per claim 15, the rejection of claim 14 incorporated and further Shoup discloses:

(original) The program storage device of claim 14, wherein said dimension is at least one of a dimension for a product, an industry classification and a maturity (Shoup, figure 7A-7C], i.e., VCR or TV is one of a dimension for a product).

As per claim 16, the rejection of claim 15 incorporated and further Shoup discloses:

(original) The program storage device of claim 15, wherein said dimension value associated with said product dimension is one of corporate loans, mortgages, home credits and personal loans (Shoup, figure 7A-7C, i.e., year, region, product, sale which read on the claimed limitation that dimension value associated with production dimension.

As per claim 17, the rejection of claim 10 incorporated and further Shoup discloses:

(currently amended) The program storage device of claim 10, wherein said step of creating combinations includes linking two or more dimensions for each combination created (Shoup, [col. 9, lines 17-22], [col. 15, lines 58-67] [col. 21, lines 32-43], e.g., "The record management system 200 is coupled to a database management system 213, which is linked to a database 214. The database 214 contains records that are to be used by the record management system 200 in providing multi-dimensional views" and "multi-dimensional view is created, the record management system 200 determines, in step 226 (FIG. 6(a)), whether the user wishes to have a view created. The input control unit 201, control engine 209 and display 206 combine to provide the user with an interface for indicating whether a multi-dimensional view is to be generated").

As per claim 18, the rejection of claim 17 incorporated and further Shoup discloses:

(currently amended) The program storage device of claim 17, wherein said step of mapping includes mapping each combination for a dimension value to said plurality of charts of accounts (Shoup, [col. 14, lines 25-54], [col. 17, lines 36-45], e.g., "the selected dimension value, the index engine 211 determines, in step 243, whether a corresponding dimension index record already exists in the master table index 204. If a corresponding dimension index record already exists for the dimension

value, then the existing dimension index record is updated in step 244 to identify the selected record" and "multi-dimensional view may be required to have B dimensions on a vertical axis, D dimensions on a horizontal axis, and a measure being displayed in the view. In such a case, the layout engine 212 generates a set of groups of records for the horizontal axis and a set of groups of records for the vertical axis. For each of these axes, the layout engine 212 selects dimension value combinations, processes sets of dimension index records for each combination").

As per claim 19, the rejection of claim 10 incorporated and further Shoup discloses:

(currently amended) The program storage device of claim 10, further comprising the step of creating a mapping file for historic data conversion (Shoup, [col. 13, lines 27-48], e.g., "In response to newly received records from a query, the record management system 200 updates the query map 203, in step 224 (FIG. 6(a)), so that it contains a record of the most recently performed query. The query map 203 is updated by the query engine 210 creating a record in the query map 203 that identifies the most recent query and each of the dimensions and measures". Also the phrase "historic data conversion" needs further elaboration. Otherwise the examiner interpretation is sufficed).

As per claim 20, the rejection of claim 10 incorporated and further Shoup discloses:

(currently amended) The program storage device of claim 10, further comprising the step of generating a report, said report is a combination, a hierarchy or a mapping report (Shoup, [col. 6, lines 6-30], e.g., "generate a multi-dimensional layout mapping for the measures to be viewed. The layout mapping includes a set of cells that are arranged with respect to a set of axes" and [col. 10, lines 11-20], e.g., "The index engine 211 is responsible for generating and updating the master table index 204. After new records are placed in the master table 202 in response to a new query, the index engine 211 reviews each new record").

As per claim 21, Shoup discloses:

(currently amended) A tool for generating a multi-dimensional data structure for integrating data from a plurality of data sources, said plurality of data sources having a different number of dimensions than said multi-dimensional data structure, said tool comprising:

a relational database (Shoup, figure 5);

a processor (Shoup, [col. 9, lines 5-16], e.g., "The processing engines include a control engine 209, a query engine 210, an index engine 211, and a layout engine 212. Each processing engine may be implemented by having a processor unit execute processor readable instructions stored in a computer readable medium");

a data structure generator, wherein said data structure generator defines at least one dimension, a dimension value, an attribute and an attribute value (Shoup, [col. 6, lines 5-53], e.g., "generating a multi-dimensional view for a number of

different measures. A set of records that include measure values associated with the different measures is retrieved in response to a set of queries. A number of different dimension values are also represented throughout the set of records, and each one of the dimension values is associated with at least one of a number of different dimensions");

a combination module for creating and retrieving a plurality of combinations, wherein a combination defines a data item and wherein said multi-dimensional data structure is defined by a first set of data items and said plurality, of data sources is defined by a second set of data items (Shoup, [col. 11, lines 33-47], [col. 15, lines 53-67], [col. 16, lines 51-61], and [col. 17, lines 36-45], e.g., "Once the layout mapping is generated, the layout engine 212 utilizes the information created in the generation of the layout mapping and the user's formatting information to create a multi-dimensional view. The layout engine 212 generates an axis display for each axis of the view. Each axis display correlates a set of cells to a combination of dimension values" and [col. 10, lines 12-29] "The master table index 204 contains dimension index records. Each dimension index record identifies the following: 1) a dimension value that is associated with one of the dimensions called for in the queries; 2) records in the master table 202 that contain the dimension value; and 3) the dimension associated with the dimension value") ;

a mapping module for mapping data items in the first set of data items in the multi-dimensional data structure to corresponding data items in the second set of data items in said plurality of data sources (Shoup, [col. 6, lines 47-64], e.g.,

"Once a layout mapping is generated, the record management system converts the layout mapping into a multi-dimensional view. For each cell in the layout mapping, measure results are determined based on the measure values in the records in each group corresponding to the cell. The measure results are loaded into the cells, and the multi-dimensional view is displayed"); **and**

a gap detector for detecting a gap comprising a difference between said first set of data items and said second set of data items (Shoup, [col. 16, lines 62-67], and [col. 17, lines 1-35 and lines 53-67], e.g., "In the group designation (step 266), the query map record for each query that produced one of the records identified in the index record comparison (step 264) is examined. If the query map record indicates that the query called for a measure value that is associated with a measure to be displayed in the multi-dimensional view, then the records produced by that query are designated as being in the group. Otherwise, the records produced by that query are not included in the group. If no records are designated as being in the group, then no group is created. If at least one record has been designated into the group, then a group is created for the selected axis").

As per claim 22, the rejection of claim 21 incorporated and further Shoup discloses:

(original) The tool of claim 21, wherein said tool is in communication with said plurality of data sources via an electronic network (Shoup, [col. 9, lines 24-33], e.g., "the system bus 208 may be extended outside of the record management system 200

and coupled to the database management system 213. Alternatively, the record management system 200 may include a communications peripheral (not shown) which couples the database management system 213 to the record management system 200. The communications peripheral may couple the record management system 200 and the database management system 213 via a communications medium").

As per claim 23, the rejection of claim 21 incorporated and further Shoup discloses:

(currently amended) The tool of claim 21, wherein said gaps are bridged at said plurality of data sources (Shoup, [col. 11, lines 7-20 and lines 35-47], [col. 16, lines 45-50], e.g., "The measure values in these records are then retrieved by the layout engine 212 and used to determine measure results. Each measure result is loaded into a corresponding cell in the layout mapping storage unit 205. Once the axis displays are formed and the cells are loaded, the display unit 206 displays the view that is provided from the converted layout mapping" and "The cells will later be filled with measure results for the measure being characterized in the view. The cells are designated to correspond to the groups of records on each axis. Each cell corresponds to a group on each axis"), i.e., the system takes into account that there are multiple different data or dimensions collected from other sources and finds ways to solve such differences.

As per claim 24, the rejection of claim 21 incorporated and further Shoup discloses:

(currently amended) The tool of claim 21, wherein said combination module creates a combination by linking two or more dimensions Shoup, [col. 9, lines 17-22], [col. 15, lines 58-67] [col. 21, lines 32-43], e.g., "The record management system 200 is coupled to a database management system 213, which is linked to a database 214. The database 214 contains records that are to be used by the record management system 200 in providing multi-dimensional views" and "multi-dimensional view is created, the record management system 200 determines, in step 226 (FIG. 6(a)), whether the user wishes to have a view created. The input control unit 201, control engine 209 and display 206 combine to provide the user with an interface for indicating whether a multi-dimensional view is to be generated").

As per claim 25, the rejection of claim 21 incorporated and further Shoup discloses:

25. (currently amended) The tool of claim 21, further comprising a mapping file module for creating a mapping file used for historic data conversion (Shoup, [col. 13, lines 27-48], e.g., "In response to newly received records from a query, the record management system 200 updates the query map 203, in step 224 (FIG. 6(a)), so that it contains a record of the most recently performed query. The query map 203 is updated by the query engine 210 creating a record in the query map 203 that identifies the most recent query and each of the dimensions and measures". Also the phrase "historic data conversion" needs further elaboration. Otherwise the examiner interpretation is sufficed).

As per claim 26, the rejection of claim 1 incorporated and further Shoup discloses:

(currently amended) The tool of claim 1, further comprising a report generator for generating a report, wherein said report is a combination, a hierarchy or a mapping report (Shoup, [col. 6, lines 6-30], e.g., "generate a multi-dimensional layout mapping for the measures to be viewed. The layout mapping includes a set of cells that are arranged with respect to a set of axes" and [col. 10, lines 11-20], e.g., "The index engine 211 is responsible for generating and updating the master table index 204. After new records are placed in the master table 202 in response to a new query, the index engine 211 reviews each new record").

As per claim 27, the rejection of claim 2 incorporated and further Shoup discloses:

(new) A method according to claim 2, further comprising documenting how the gap was bridged (Shoup, [col. 11, lines 7-20 and lines 35-47], [col. 16, lines 45-50], e.g., "The measure values in these records are then retrieved by the layout engine 212 and used to determine measure results. Each measure result is loaded into a corresponding cell in the layout mapping storage unit 205. Once the axis displays are formed and the cells are loaded, the display unit 206 displays the view that is provided from the converted layout mapping" and "The cells will later be filled with measure results for the measure being characterized in the view. The cells are designated to

correspond to the groups of records on each axis. Each cell corresponds to a group on each axis"), i.e., the system takes into account that there are multiple different data or dimensions collected from other sources and finds ways to solve such differences.

As per claim 28, the rejection of claim 1 incorporated and further Shoup discloses:

(new) A method according to claim 1, wherein the multi-dimensional data structure comprises a centralized database (Shoup, [figure 5], [col. 9, lines 16-46], wherein illustrates a multi-dimensional data structure and is centralized database).

As per claim 30, the rejection of claim 11 incorporated and further Shoup discloses:

(new) A program storage device according to claim 11, further comprising documenting how the gap was bridged (Shoup, [col. 11, lines 7-20 and lines 35-47], [col. 16, lines 45-50], e.g., "The measure values in these records are then retrieved by the layout engine 212 and used to determine measure results. Each measure result is loaded into a corresponding cell in the layout mapping storage unit 205. Once the axis displays are formed and the cells are loaded, the display unit 206 displays the view that is provided from the converted layout mapping" and "The cells will later be filled with measure results for the measure being characterized in the view. The cells are designated to correspond to the groups of records on each axis. Each cell corresponds to a group on each axis"), i.e., the system takes into account that there are multiple

different data or dimensions collected from other sources and finds ways to solve such differences.

As per claim 31, the rejection of claim 11 incorporated and further Shoup discloses:

(new) A program storage device according to claim 11, wherein the multi-dimensional data structure comprises a centralized database (Shoup, [figure 5], [col. 9, lines 16-46], wherein illustrates a multi-dimensional data structure and is centralized database).

As per claim 33, the rejection of claim 21 incorporated and further Shoup discloses:

33. (new) A tool according to claim 21, wherein the gap detector further comprises a gap resolver for facilitating bridging of the gap Shoup, [col. 11, lines 7-20 and lines 35-47], [col. 16, lines 45-50], e.g., "The measure values in these records are then retrieved by the layout engine 212 and used to determine measure results. Each measure result is loaded into a corresponding cell in the layout mapping storage unit 205. Once the axis displays are formed and the cells are loaded, the display unit 206 displays the view that is provided from the converted layout mapping" and "The cells will later be filled with measure results for the measure being characterized in the view. The cells are designated to correspond to the groups of records on each axis. Each cell corresponds to a group on each axis"), i.e., the system takes into account that

there are multiple different data or dimensions collected from other sources and finds ways to solve such differences.

As per claim 34, the rejection of claim 33 incorporated and further Shoup discloses:

(new) A tool according to claim 33, wherein the gap detector and resolver document how gaps are bridged Shoup, [col. 11, lines 7-20 and lines 35-47], [col. 16, lines 45-50], e.g., "The measure values in these records are then retrieved by the layout engine 212 and used to determine measure results. Each measure result is loaded into a corresponding cell in the layout mapping storage unit 205. Once the axis displays are formed and the cells are loaded, the display unit 206 displays the view that is provided from the converted layout mapping" and "The cells will later be filled with measure results for the measure being characterized in the view. The cells are designated to correspond to the groups of records on each axis. Each cell corresponds to a group on each axis"), i.e., the system takes into account that there are multiple different data or dimensions collected from other sources and finds ways to solve such differences.

As per claim 35, the rejection of claim 21 incorporated and further Shoup discloses:

(new) A tool according to claim 21, wherein the multi-dimensional data structure comprises a centralized database (Shoup, [figure 5], [col. 9, lines 16-46], wherein illustrates a multi-dimensional data structure and is centralized database).

As per claim 37, 38, and 39, Shoup discloses:

wherein the gap is bridged by providing further data items from the plurality of data sources (Shoup, [col. 11, lines 7-20 and lines 35-47], [col. 16, lines 45-50], e.g., "The measure values in these records are then retrieved by the layout engine 212 and used to determine measure results. Each measure result is loaded into a corresponding cell in the layout mapping storage unit 205. Once the axis displays are formed and the cells are loaded, the display unit 206 displays the view that is provided from the converted layout mapping" and "The cells will later be filled with measure results for the measure being characterized in the view. The cells are designated to correspond to the groups of records on each axis. Each cell corresponds to a group on each axis"), i.e., the system takes into account that there are multiple different data or dimensions collected from other sources and finds ways to solve such differences.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 28, 32 and 36 Rejected under 35 U.S.C. 103(a) a being unpatentable over **Shoup et al** (US Patent **6108657**, herein Shoup), as applied to claims 1-28, 30-31,

33-35 and 37-39 above, and further in view of Diamond et al. (US PGPUB 20020116299, herein Diamond).

As per claims 29, 32, and 36, Shoup does not disclose:

wherein the centralized database is located at a central office.

However Diamond, in an analogous art, discloses **wherein the centralized database is located at a central office** (Diamond, [0056], [0057], e.g., "The local data 492 is periodically transmitted through the interface connection 506 to the central office, either through actions of the user or automatically, and is stored in the central office database 510"). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention was made to incorporate the teaching of Diamond with the teaching of Shoup to uploaded to a central database, which collects data from terminals in various remote locations (Shoup, [0057]) .

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See form 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUAN A. PHAM whose telephone number is (571) 270-3173. The examiner can normally be reached on Monday to Friday (7:30AM-5:00PM) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K. Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-1834.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TUAN PHAM/
Examiner, Art Unit 2163

/Kuen S Lu/
Primary Examiner, Art Unit 2156